

HB 558 Purchase of Fuel Efficient Vehicles by the State

- HB 558 requires that a portion of vehicles purchased by the state motor pool be operated by alternative fuels or hybrid vehicles
- It exempts vehicles where the total cost of owning and operating the vehicles would be 10% more than the conventional vehicle
- 19 states currently have Alternative Fuel Policies that encourage the conversion to alternative fuel and hybrid vehicles in the state fleet
- The Federal Energy Policy Act of 1992 requires the purchase of AFV by federal agencies, state governments, and alternative fuel providers.
- August 2005 President Bush signed the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. This act provides funding for alternative fuel transit buses and a tax credit for the sale of alternative fuels

There are three reasons why we should use public policy to promote market efficiencies and economies of scale

- These changes will occur as a result of market forces, given enough time, but it is desirable to accelerate market forces so that the benefits of efficiency, scale economies, and the realization of certain values like reduction of reliance on foreign energy sources can occur sooner
- Governments are consumers and should make strategic choices in the expenditure of public resources; public spending can lead the way by example, though it should only do so if it is also efficient
- Government spending choices have assisted in the transition to new economies at several key points in our own history such as the creation of a national banking system and transportation infrastructure including railroads and interstate highways

The reasons for encouraging government investment in the technologies addressed specifically in this bill include

- Reduction of reliance on foreign energy
- Cleaner energy technologies that reduce greenhouse gases
- Stimulation of demand for new energy sources in which Montana production stands to play a major role

That said, let me tell you a little about alternative fuel and hybrid vehicles

Alternative Fuels include:

- **Ethanol**

- All gasoline vehicles are capable of operating on gasoline/ethanol blends with up to 10% ethanol. In fact, some states require the seasonal or year-round use of up to 10% ethanol as an oxygenate additive to gasoline to mitigate ozone formation. These low percentage oxygenate blends are not classified as alternative fuels. We speak of ethanol vehicles as those specifically manufactured to be capable of running on up to 85% denatured ethanol, 15% gasoline (E85), or any mixture of the two up to the 85% ethanol limit. E85 may be seasonally adjusted in colder climates such that the real proportion of E85 is less than 85% ethanol. Vehicles manufactured for E85 use are commonly called flexible fuel vehicles (FFVs). For more information on lower percentage ethanol blends, please see our site on fuel blends. For more information on alternative fuel vehicles capable of fueling with higher percentages of ethanol, read on.
- Light-duty FFVs include a wide range of vehicles, from compacts to sport utility vehicles to pickup trucks. Unlike bi-fuel natural gas and propane vehicles that have two unique fueling systems, FFVs have only one fueling system. To qualify as an alternative fuel vehicle (AFV) for tax credits, incentives to meet requirements for mandated fleets (federal, state, and fuel provider fleets) under the Energy Policy Act of 1992 (EPAct), a vehicle must be capable of using fuel blends up to 85% ethanol.

- **Natural Gas**

- There are over 150,000 natural gas vehicles on U.S. roads today and over 5 million worldwide.
- Dedicated natural gas vehicles (NGVs) are designed to run only on natural gas; bi-fuel NGVs have two separate fueling systems that enable the vehicle to use either natural gas or a conventional fuel (gasoline or diesel). In general, dedicated NGVs demonstrate better performance and have lower emissions than bi-fuel vehicles because their engines are optimized to run on natural gas. In addition, the vehicle does not have to carry two types of fuel, thereby increasing cargo capacity and reducing weight.
- Natural gas is domestically produced and readily available to end-users through the utility infrastructure. It is also clean

burning and produces significantly fewer harmful emissions than reformulated gasoline or diesel when used in natural gas vehicles. In addition, commercially available medium- and heavy-duty natural gas engines have demonstrated over 90% reductions of carbon monoxide (CO) and particulate matter and more than 50% reduction in nitrogen oxides (NOx) relative to commercial diesel engines. Natural gas can either be stored onboard a vehicle as compressed natural gas (CNG) at 3,000 or 3,600 psi or as liquefied natural gas (LNG) at typically 20-150 psi. Natural gas can also be blended with hydrogen

- **Biodiesel**

- Biodiesel blends can be used in any light- or heavy-duty diesel engine. However, it is important to check with your manufacturer before using biodiesel. As with any fuel, an engine component failure caused by the fuel may not be covered under warranty.
- Biodiesel blends are being used in a number of heavy-duty vehicles throughout the country. The most common blend of biodiesel is B20 (20% biodiesel / 80% diesel), but B100 (neat biodiesel) and blends of less than 20% biodiesel can also be used.
- Vehicles that have successfully used biodiesel include school and transit buses, refuse haulers, military support vehicles, farm equipment, and national park maintenance vehicles. Biodiesel fueling of light-duty diesel vehicles is less common. It is important to always consult your vehicle manufacturer to make sure they approve the use of biodiesel in their products.

- **Hydrogen – fuel cells**

- Widespread use of hydrogen as an energy source in this country could help address concerns about energy security, global climate change, and air quality. Fuel cells are an important enabling technology for the hydrogen future and have the potential to revolutionize the way we power our nation, offering cleaner, more efficient alternatives to the combustion of gasoline and other fossil fuels. Hydrogen's main benefits are:
 - Stronger national energy security
 - Reduced greenhouse gas emissions
 - Improved air quality
 - Increased energy efficiency.

- **Propane**

- Propane, also known as liquefied petroleum gas (LPG), has been used in vehicles since the 1920s. Today there are more than 200,000 propane vehicles in the United States and about 9 million worldwide. These include cars, pickup trucks, and vans; and medium- heavy-duty vehicles such as shuttles, trolleys, delivery trucks, and school buses; and off-road vehicles such as forklifts and loaders. Propane vehicles can be equipped with dedicated fueling systems designed to use only propane, or bi-fuel fueling systems that enable fueling with either propane or gasoline.

Fuel Availability

Propane is the most accessible of the liquid and gaseous alternative fuels. All states have publicly accessible fueling stations; approximately 3,000 are documented. Use our Station Locator to find a propane fueling location in your area.

The time needed to fill a vehicle with propane is comparable to that needed for gasoline or diesel fuel. The tanks are filled to no more than 80% capacity (there is an automatic shutoff on the tanks), to allow for liquid expansion as ambient temperature rises.

Vehicle Experience

- There are more than 200,000 on- and off-road propane-powered vehicles in the United States and about 9 million worldwide. Off-road applications include indoor use of vehicles such as forklifts and loaders, where propane's clean burning properties help to maintain air quality.

- **P-Fuels**

P-Series fuel is a unique blend of natural gas liquids (pentanes plus), ethanol, and the biomass-derived co-solvent methyltetrahydrofuran (MeTHF). P-Series fuels are clear, colorless, 89-93 octane, liquid blends that are formulated to be used in flexible fuel vehicles (FFV's). P-Series are designed to be used alone or freely mixed with gasoline in any proportion inside the FFV's gas tank. These fuels are not currently being produced in large quantities and are not widely used.

- Since 1992, when the Energy Policy Act (EPA) was passed, only one new fuel has been recognized as an

alternative fuel under the EPAct petitions provision. P-Series fuels were added to the list of alternative fuels in 1999.

Hybrids:

- Honda Accord \$1.77/25 miles (.81/gal)
- Honda Civic \$1.10/25 miles (.50/gal)
- Lexus \$2.31/25 miles (.96/gal)
- Toyota Camry \$1.40/25 miles (.64/gal)
- Toyota Prius \$1.00/25 miles (.45/gal)

HB 558 establishes targets for the conversion of the state fleet to alternative fuel and hybrid vehicles

- Sets % targets for *new purchases* of
 - 10% for 2009
 - 30% for 2011
 - 50% for 2013
 - 100% for 2015
- Acknowledges the importance of fiscal responsibility and efficiency and allows exemptions if
 - The cost of owning and operating the AFV or Hybrid is 15% more expensive than the conventional vehicles
 - There are no AFV or hybrids available for emergency services, law enforcement, or a specialized vehicle

HB 558 strengthens existing MCA on Alternative Fuels:

- 90-4-1011 guidelines:
 - policies should have in-state benefits
 - coordinated among affected agencies
 - recognizes incentives as effective tool in developing alternative fuels policy
 - encourages self-sufficient markets
 - measurable public benefits